COMMON COURSE OUTLINE: Course discipline/number/title: CAD 1229: Technical Drafting

A. CATALOG DESCRIPTION
1. Credits: 2
2. Hours/Week: 1 hour lecture and 2 hour lab
3. Prerequisites (Course discipline/number): CAD 1223
4. Co-requisites (Course discipline/number): CAD 1225
5. MnTC Goals (if any): NA

This course is a continuation of CAD 1223. It is focused on the use of CAD in support of engineering projects. In addition to developing new skills for creating and detailing working drawings, students will gain an introduction to common fasteners and how CAD is used with assemblies and as part of a development project. The concept of reverse engineering is introduced and involves learning the proper use of a caliper. The latest version of AutoCAD will be used for all drawing activities.

B. DATE LAST REVISED (Month, year): May, 2010

C. OUTLINE OF MAJOR CONTENT AREAS:
1. Screw Threads, springs and common fasteners
2. Working drawings
   a) Detail drawings
   b) Basic assembly and subassembly drawings
3. Drawing Revisions
4. Reverse engineering
5. Using a standard caliper
6. Using CAD within a team project

D. LEARNING OUTCOMES (GENERAL): The student will be able to:
1. Demonstrate a basic understanding of screw threads and common fasteners.
2. Identify and draw various fasteners and springs.
3. Develop a higher level of skill while creating and detailing technical drawings.
4. Read, understand and create assembly drawings.
5. Demonstrate the process for documenting drawing changes.
6. Perform reverse engineering by accurately measuring objects using a caliper and then producing a CAD drawing from the data.
7. Perform work and solve problems in a team environment.
8. Gain a basic understanding of a project layout and the role of working drawings in a project.

E. LEARNING OUTCOMES (MNTC): NA

F. METHODS FOR EVALUATION OF STUDENT LEARNING:
1. Evaluation of electronic files
2. Skill proficiency exercises
3. Quizzes
4. Exams

G. SPECIAL INFORMATION (if any):
   Tuition differential